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# PRESERVATION OF VEGETABLES BY FERMENTATION AND SALTING

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AMONG the practical methods of conserving surplus food, especially worthy of consideration at this time, are those based on preservation by fermentation and salting or brining.

Owing to the enormous development of canning in this country during the last generation and the ease with which fresh vegetables may be obtained from some part of the country at almost any time of year, relatively little use has been made of these methods of preserving, which were used by our forefathers and which are still used in Europe to a considerable extent. In this country the only substances commonly prepared by fermentation are sauerkraut and salt cucumber pickles, and, as a domestic product in some regions, "salted beans." Many other vegetables, however, lend themselves very readily to this method of preservation and furnish products quite different from the original substances, but which are none the less wholesome and appetizing and are greatly liked by many people. They also offer variety in the diet, which is an important consideration.

The object of this bulletin is to describe and explain methods of preservation by fermenting and salting, to indicate the purposes to which they are especially applicable, and to tell how the preserved products can best be prepared for table use.

The methods are not given with the view that they will be substituted for canning or drying, but simply for the purpose of making housekeepers more familiar with additional methods of preserving foods which they may use if they so desire.

# PRESERVATION OF VEGETABLES BY FERMENTATION AND SALTING.

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## ADVANTAGES OF FERMENTATION AND SALTING METHODS.

**M**ETHODS of preserving vegetables by salting or fermenting them have been practiced for a long time, and vegetables so prepared are known to be wholesome food. Recent experiments by the Department of Agriculture have shown that a great many vegetables may be satisfactorily preserved by such methods which deserve a wider use in the home than they have had in the past. One advantage that these methods possess is that they make use of containers which could not be used for canning. For example, old kegs, lard and butter tubs, stone crocks or jars, wide-mouthed glass jars, and glass preserving jars without covers, if thoroughly cleaned, may be used for the storage of salted or fermented vegetables. Another advantage is that with a given amount of labor, a great deal more material can be cared for by these methods than could be preserved in the same time if canning or drying alone were depended upon.

## GENERAL PRINCIPLES OF THE METHODS.

The methods of preservation considered in this bulletin group themselves naturally under three heads: (1) Fermentation with dry salting, (2) fermentation in brine, and (3) salting without fermentation.

When vegetables are either packed dry with 2 or 3 pounds of salt to every 100 pounds of material, as in the making of sauerkraut, or are covered with a brine containing 5 pounds of salt to every 12 gallons of water, as in the preparation of dill pickles, the sugars present in the vegetables are extracted from them and are fermented by the lactic-acid-forming bacteria which are present naturally in great numbers on the surface of the fresh material. After this action has

gone on to a certain point, enough of this lactic acid is formed to kill the bacteria and prevent any further change in the material, provided certain precautions are taken to prevent the growth of molds. The lactic acid permeates the fermented material and gives it a characteristic flavor not unlike that of a weak vinegar solution. This flavor is relished by many. The lactic acid has no harmful effect. It is the same acid which is present in sour milk and it is digested and utilized by the body as a source of energy.

If the vegetables are covered with a very strong brine, or are packed with a fairly large amount of salt, lactic-acid fermentation and also the growth of other forms of bacteria and molds are prevented. This method of preservation is especially applicable to those vegetables which contain so little sugar that sufficient lactic acid can not be formed by bacterial action to insure preservation of the material.

In the well-known method of vinegar pickling, the acetic acid of the vinegar acts like the lactic acid produced by fermentation as a preservative, preventing the growth of bacteria or molds. Sometimes brining precedes pickling in vinegar, and often the pickling is modified by the addition of sugar and spices, which add flavor as well as help to preserve the fruit or vegetables. In some cases olive oil or some other table oil is added to the vinegar, as in the making of oil cucumber pickles.

#### **EQUIPMENT NEEDED.**

A supply of clean wooden kegs or stone crocks is the first requisite. For home use the smaller sizes are preferable as a rule, because the contents will then be used up more quickly and there will be less chance of molding from standing too long after the kegs or crocks are opened. Wooden kegs holding 5 or 10 gallons are a convenient size. New kegs are preferable, but old ones, such as beer or cider kegs, may be used if they are thoroughly washed and steamed to remove any undesirable odor or flavor which might be imparted to the foods packed in them. Wooden vessels of yellow or pitch pine are undesirable, since they are apt to give a disagreeable taste to the foods. Stone crocks or jars holding from 1 to 5 gallons are convenient. Stoneware is less likely to absorb flavors than wood, and stone jars may be obtained in smaller sizes than wooden kegs. Wide-mouthed bottles or glass jars, which are not suitable for canning, may also be used for salting or fermenting small quantities of foods.

A supply of ordinary fine salt, which can be purchased in bulk for about 2 cents per pound, is most satisfactory for general use. Table salt will do very well, but is rather expensive if large quantities of vegetables are to be preserved. The rather coarse salt (known in the trade as "ground alum salt"), which is used in freezing ice cream,

can be used. Rock salt should not be used because it is too coarse and is likely to contain impurities.

Clean white cloth (cheesecloth or muslin) is necessary for covering the material after it is packed into the container. It will be found convenient to cut this into circular pieces about 6 inches larger in diameter than the stone crock or keg. Two or three thicknesses of cheesecloth or one thickness of muslin or heavier cloth should be spread over the top of the vegetables.

Round pieces of board about 1 inch or more in thickness will be needed to put on top of the cheesecloth. The boards should be a little smaller in diameter than the inside of the crock or the head of the keg or tub, so that they will slip in and out easily. The pieces may be sawed out at a lumber mill, or may be made at home by fastening together several boards with cleats and rounding them with a small saw and a carpenter's shave. Almost any wood may be used except yellow or pitch pine, which is likely to impart an undesirable flavor to the vegetables. For small containers, if preferred, heavy plates of suitable size can be used instead of boards.

One or more clean bricks or some clean stones may be used as weights to hold down the mass in the keg or crock.

Paraffin is needed to pour over the liquid in the containers (after fermentation has ceased) to prevent mold.

A pair of kitchen scales or steelyards and a quart or gallon liquid measure completes the necessary equipment.

### FERMENTATION WITH DRY SALTING.

As has already been stated, fermentation with dry salting consists in packing the material with a small amount of salt. No water is added, for the salt extracts the water from the vegetables and forms the brine. The method, in general, is as follows:

Wash the vegetables, drain off the surplus water, and weigh them. For each 100 pounds of the vegetables weigh out 3 pounds of salt; for smaller quantities use the same proportion (3 per cent by weight) of salt. Cover the bottom of the keg, crock, or other container with a layer of the vegetables about 1 inch thick and sprinkle over this a little of the salt. Do not add too much of the salt to the first layers packed, but try to distribute it equally among the different layers so that the quantity which has been weighed out will be sufficient for the given quantity of vegetables packed. If a little of the salt is left over, it can be added to the top layer, but if more has to be added than has been weighed out, the finished product will taste too salty. Continue adding layers of the material sprinkled with salt until the container is about three-fourths full. Sprinkle the last of the salt on the top layer and spread over it one or two thicknesses of cheesecloth,

tucking them down at the sides. On the cloth place one of the round pieces of board or a plate, mentioned on page 5, and on this put a clean stone or one or two clean bricks. The size of the weight depends on the quantity of material being preserved. For a 5-gallon keg a weight of 10 pounds will be sufficient, but if a larger barrel is used, a heavier weight will be needed. The weight added should be sufficient to extract the juices to form a brine, which will cover the top in about 24 hours and sometimes it may be necessary to add more

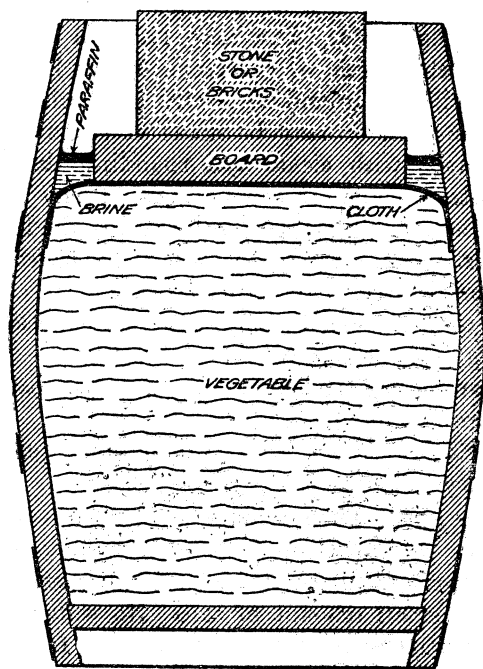


FIG. 1.—Diagram illustrating method of packing vegetables into keg or other container for fermenting or salting.

stones after the material has stood a while, if a brine does not form. The method of packing the vegetables is illustrated by figure 1.

After it is packed, allow the container to stand in a moderately warm room to ferment. The salt and pressure of the weight soon extract water from the vegetables and form a brine which soon covers the whole mass. The stone and board serve to keep the vegetables beneath the surface of the liquid. If the weight is not sufficient for this purpose, a larger stone or more bricks should be added. As the fermentation goes on, bubbles arise to the surface of the liquid.

The rate of fermentation depends principally upon the temperature. In warm weather it requires only 8 to 10 days; in cool weather 2 to 4 weeks may be necessary. When bubbling stops, fermentation is complete. A good way to determine this is to tap the receptacle gently; if no bubbles arise, fermentation is finished.

The containers should then be placed in a cellar or other cool store-room and the surface of the liquid treated to prevent the development of a scum of mold. If this is not done a thin film will appear on the surface of the brine soon after fermentation ceases, which will spread rapidly and develop into a heavy folded membrane. This scum is a growth of microorganisms which feed upon the acid formed by fermentation. If allowed to grow undisturbed, all the acid will

eventually be destroyed and the fermented material will spoil. This scum must be prevented from forming if the product is to be kept for a considerable time. Exclusion of air from the surface of the brine will entirely prevent its formation. There are three feasible methods of accomplishing this.

The first method is to cover the surface with very hot melted paraffin. If the paraffin is sufficiently hot to make the brine boil when poured upon it, a smooth, even layer will be formed before hardening, making a perfectly air-tight seal. Before adding paraffin the containers should be set where they will not be disturbed until ready for use, as any attempt to move them afterwards may break the seal and necessitate resealing. Paraffin has the advantage of ease in handling, and of being easily separated from the fermented vegetables when they are removed. Further, it can be used over again and thus the expense is small in the long run. If it becomes dirty it can be purified by heating very hot and straining through several thicknesses of cheesecloth. One disadvantage in the use of paraffin is that the formation of gas below the layer will break the seal; therefore it should not be used until fermentation has ceased. If the paraffin breaks, it should be removed, remelted, and replaced.

The second method is to pack a barrel or keg full and then replace the head. Fill the barrel or keg as full as possible with the fresh material to be fermented and then add the round board and weights exactly as described on page 6. Let the barrel stand for 48 hours to allow part of the gas to escape. Then remove the board and weight and head the barrel or keg up tight. Bore a small hole (about one-half inch) in the head and fill the barrel full with brine (made by dissolving three-fourths cup salt in 1 gallon water) so that there is no air space. Allow the barrel to stand until the fermentation has stopped, adding more brine at intervals to keep the container full. When bubbling has stopped, plug the vent tight. If the barrel does not leak, fermented products put up in this manner will keep indefinitely.

The third method is to use an oil, like cottonseed oil, which floats on the surface and effectively prevents air from reaching the brine. Brine covered with a layer of cottonseed oil or some other wholesome oil about one-quarter inch thick will keep indefinitely. The only objection to liquid oils is the difficulty of getting at the preserved vegetables without getting them covered with the oil, which is difficult to remove. Before the vegetables are to be removed the oil should be skimmed or siphoned off from the surface of the brine.

If oil or paraffin is used to cover the brine, it is advisable, after fermentation is finished, to adjust the amount of brine used and weights on the cover so that the brine comes up to but not over the



cover. In this case only the brine exposed between the cover and sides need be oiled or paraffined, thus saving covering material.

Experiments by the department have shown that the following vegetables may be preserved successfully under home conditions by the above method of fermentation by dry salting: Cabbage (sauerkraut), string beans, beet tops, and turnip tops, and it is probable that others may be added to this list as a result of further experiments. In general the method described above should be followed for all vegetables preserved by this method, with modifications in the preservation of some of them as follows:

#### SAUERKRAUT OR FERMENTED SALT CABBAGE.

In many parts of the country it is a general belief that only late or fall cabbage is suitable for making sauerkraut. Such, however, is not the case. If properly handled and stored, sauerkraut of excellent quality can be produced from cabbage maturing at any season of the year. The essential points are the use of only mature, sound cabbage, scrupulous cleanliness throughout the process, and proper care of the surface of the brine after fermentation is completed.

In making sauerkraut for home purposes the outer green leaves of the cabbage should be removed, just as in preparing the head for boiling. In addition all decayed or bruised leaves should be discarded and the core removed. If an instrument for this purpose is not available, it is advisable to quarter the heads and slice off the part of the core remaining on each quarter. The cabbage should be shredded by one of the hand-shredding machines sold upon the market for such purposes, or if one is not available the heads may be cut into thin slices with a slaw cutter or a large knife.

The shredded cabbage should be packed immediately into a perfectly clean, water-tight receptacle, such as a cider or wine barrel, keg, or tub. As it is packed into the receptacle add salt in the proportion of 1 pound of salt to 40 pounds of cabbage, distributing it evenly throughout the cabbage, as described on page 5. Experiments have shown that approximately  $2\frac{1}{2}$  pounds of salt to each 100 pounds of shredded cabbage give the best flavor to the resulting kraut. When the barrel or crock is nearly full the cabbage should be pressed down as firmly as possible and covered with a clean board cover. It is advisable but not essential that clean cloth be placed over the cabbage before the cover is put into place. The salt soon extracts a considerable amount of the cabbage juice from the cabbage, and a sufficient weight of clean brick or stone should be added to cause the brine to rise up to the wooden cover. Set the container aside until fermentation is complete, skim off any scum that forms and protect the surface by pouring over it a layer of paraffin, as

described on page 7. If paraffin is not added, the scum develops very rapidly during warm weather and soon destroys the acid of the brine and the sauerkraut beneath. If the sauerkraut is made during the fall and stored in a cool place, there is no absolute necessity of a layer of paraffin, since the low temperature will prevent the growth of the organism which destroys lactic acid and causes decomposition. No doubt the popular idea that sauerkraut made from early cabbage will not keep is based upon the fact that the fermentation of sauerkraut made from such cabbage occurs in warm weather and the rapid growth of scum soon destroys both brine and kraut if the surface is not properly protected.

#### STRING BEANS.

String beans should be young and tender and not overgrown. Remove the tip ends and strings, cut or break the beans into pieces about 2 inches long, and pack as described on page 5. If desired, the beans may be shredded by cutting lengthwise several times, and the fermented product prepared like sauerkraut.

#### BEEF TOPS AND TURNIP TOPS.

Wash to remove grit and follow general directions as described on page 5.

#### FERMENTATION IN BRINE.

As stated above, some vegetables which do not contain sufficient water are better fermented by covering them with a weak brine.

Wash the vegetables, drain off the surplus water, and pack them in a keg, crock, or other utensil until it is nearly full (within about 3 inches of the top of the vessel). Prepare a weak brine as follows: To each gallon of water used add one-half pint of vinegar and three-fourths of a cup of salt and stir until the salt is entirely dissolved. The amount of brine necessary to cover the vegetables will be about equal to one-half the volume of the material to be fermented. This is very easily calculated by knowing the contents of the container used. For example, if a 5-gallon keg is to be packed,  $2\frac{1}{2}$  gallons will be needed. It is best to make up at one time all the brine needed on one day. A clean tub or barrel can be used for mixing the brine. Pour the brine over the vegetables and cover as described on page 5. Set the vessel and its contents away in a moderately warm room to ferment. When fermentation has stopped, the container should be placed in a cool cellar or storeroom and the surface of the liquid treated to prevent mold by one of the methods described above. Before adding the paraffin or cottonseed oil, any scum or mold which may have formed on the surface of the liquid should be removed by skimming.

Experience has shown that the following vegetables may be preserved satisfactorily by fermenting in brine: Cucumbers, string

beans, green tomatoes, beets, beet tops, turnip tops, corn, and green peas. The general directions given above should be followed, but some modifications are desirable in the preserving of individual vegetables by this method, and these are given in the following pages.

#### CUCUMBERS.

Wash the cucumbers and pack into a clean, water-tight keg or crock. On the bottom of the container place a layer of dill and a handful of mixed spice. When the container is full add more dill and spice. Add sufficient brine to cover the material. When nearly full cover with a clean cloth and a board cover weighted with stone, as described on page 5. The dill and spices may be omitted if desired.

#### STRING BEANS.

Remove the ends and strings from the beans and cut into pieces about 2 inches long, pack in the container, cover with brine, and ferment, as described on page 9.

#### GREEN TOMATOES.

Green tomatoes should be packed whole and prepared as cucumbers. The dill and spice may be added if desired.

#### BEETS.

Beets must be scrubbed thoroughly and packed whole. If peeled or sliced before being fermented the beets lose considerable color and flavor.

#### BEET TOPS AND TURNIP TOPS.

These should be washed thoroughly and packed into the container without being cut up.

#### PEAS.

Green peas should be shelled and packed in the same way as string beans. It is advisable to use fairly small containers for peas so that the quantity opened up will be used before it has a chance to spoil.

#### CORN.

Husk and clean the silk from the corn; wash and place the ears on end in the jar, packing the jar nearly full. Pour the brine over the ears; add cover and weights. Fermented corn has a sour taste, which may not be relished if the corn is eaten alone. For this reason it will be preferable in most cases to preserve corn by canning, drying, or by salting, as described on page 11. Fermented corn, however, may be used in the preparation of some dishes, such as chowders, omelets, etc., where its flavor will be masked to some extent by the

other ingredients, and the acid taste of the fermented corn may not be objectionable to some people.

### SALTING WITHOUT FERMENTATION.

In this method the vegetables are packed with enough salt to prevent fermentation or the growth of yeasts or molds. The following directions should be followed in salting vegetables:

Wash the vegetables, drain off the water, and then weigh them. For each 100 pounds of vegetables weigh out 25 pounds of salt. For smaller quantities use the same proportion of salt (one-fourth of the weight of the vegetables). Spread a layer of the vegetables about 1 inch deep on the bottom of a clean keg, tub, or crock, and sprinkle heavily with some of the salt. Try to distribute the salt evenly among the different layers packed so that the quantity weighed out will be just enough to pack the vegetables. Continue adding layers of vegetables and salt until the container is nearly full and then cover with the clean cloth, board, and weight, as in the case of fermentation by dry salting. The keg or other container should then be set aside in a cool place. If the salt and pressure of the weight have not extracted sufficient brine to cover the vegetables, after 24 hours, prepare a strong brine by dissolving 1 pound of salt in 2 quarts of water and pour enough of this over the vegetables to come up to the round wooden cover. There will be a small amount of bubbling at the start, as in the case of the fermented vegetables, but this will not continue for long. Just as soon as the bubbling has stopped the surface of the liquid should be protected by one of the methods described on page 7.

Experiments have shown that the following vegetables may be satisfactorily preserved by the above method: Dandelions, beet tops, turnip tops, spinach, chard, kale, cabbage, string beans, green peas, and corn. The string beans should be cut in 2-inch pieces, as in their preparation for fermentation. The peas should be shelled and packed according to the directions given above. Cabbage should be shredded and packed in the same way as in the manufacture of sauerkraut. Corn, however, requires somewhat different treatment and the directions for salting it are as follows:

### SALTED CORN.

Husk the ears of corn and remove the silk. Cook in boiling water for about 10 minutes to set the milk. Cut off the corn from the cob with a sharp knife. Weigh the corn and pack in layers with one-fourth its weight of fine salt, as described above.

## CARE AND STORAGE OF FERMENTED AND SALTED PRODUCTS.

If properly prepared and stored, fermented and salted products will keep for a long time. It is absolutely necessary to prevent mold from growing on the surface of the brine of fermented vegetables by the addition of paraffin or in some other way, as described on page 7. Protection of the surface of salted vegetables is desirable, but not necessary if the containers are covered to prevent the evaporation of the brine. Practically all of the trouble with the fermented or salted products may be traced to carelessness in protecting the surface of the brine. In case mold should develop upon the surface or the brine should become evaporated so that the upper layers of the food spoil, this does not mean necessarily that the entire contents of the vessel has spoiled, even though the upper layers may have a very disagreeable odor. The molds and other organisms which cause the spoiling do not penetrate rapidly to the lower layers, and by carefully removing the spoiled material from the top, adding a little fresh brine and pouring hot paraffin on the top, the remainder of the contents of the vessel may be saved. After fermentation has ceased, the containers of salted and fermented vegetables should be stored in a cool place. They should be protected from rats, mice, and vermin, which might eat through the paraffin layer and get at the contents.

## PREPARATION OF FERMENTED AND SALTED VEGETABLES FOR THE TABLE.

Some fermented and salted vegetables, like cucumbers, are eaten raw; others, like cabbage (sauerkraut), are usually cooked. In general the fermented and salted products may be prepared for the table in much the same manner as the fresh vegetables, except that before being cooked they should be soaked in fresh water for several hours or longer, if necessary, to remove the salt, the water being changed several times. In some cases it may be necessary also to change the water once or twice during the boiling of the salted vegetables. In this one should be guided by taste.

Fermented vegetables, after being removed from the container, should be rinsed thoroughly in fresh water and then cooked without soaking if a product having a decidedly acid flavor is desired. If one does not desire the acid flavor, it may be modified to any extent or removed almost entirely by soaking the fermented vegetables as directed above for the salted product.

The following suggestions and recipes are given as a guide in the preparation of salted and fermented vegetables for the table. These have been tested and found to give satisfactory results.

DANDELIONS, SPINACH, KALE, AND OTHER GREENS.

The salted greens, after they have been soaked to remove the salt, may be boiled with fat meat or boiled plain and served with a cream sauce and garnished with hard-boiled eggs. When so prepared they taste much like the fresh greens, although, naturally, they lose some of their flavor during the salting and freshening processes.

The fermented greens may be soaked and cooked in the same way as the salted greens, but, in general, it is desirable to cook them without soaking and preserve the acid flavor, which is very similar to that of the fresh greens when boiled and served with vinegar.

BEETS.

Rinse the fermented beets and boil in the same manner as fresh beets. When thus prepared they have a flavor which is not unlike the common pickled beets and may be served as a pickle, with butter, or used in the preparation of salads, vegetable hashes, etc.

STRING BEANS.

The salted string beans should be soaked to remove the salt and then cooked in any of the ways in which fresh string beans are prepared. The fermented string beans may be cooked without soaking and served as a vegetable or as an ingredient of a salad, the acid flavor being agreeable to many persons. Young and tender string beans may be fermented and eaten raw in the same way as cucumber pickles.

CORN.

To prepare the fermented or salted corn for the table, rinse it thoroughly and soak it for four or five hours, changing the water frequently. In general it will be found more satisfactory to remove practically all of the acid flavor from the fermented corn. After soaking, place the corn in cold water and bring to boil, pour off the water, add fresh cold water, bring to boil again, and cook until tender. The cooked salted or fermented corn may be used in the following recipes which are given below, or may be served as stewed corn or succotash.

CORN CHOWDER.

$\frac{3}{4}$  pound cold beef, or  
 $\frac{1}{2}$  pound salt pork or bacon.  
 2 potatoes.  
 1 onion.  
 $\frac{1}{2}$  green pepper.  
 $1\frac{1}{2}$  cups cooked corn, or more.

1 cup tomatoes.  
 3 tablespoons flour.  
 1 cup milk or cream.  
 1 teaspoon salt.  
 $\frac{1}{4}$  teaspoon pepper.

Cut the meat or pork into cubes; cover well with water. Add the tomato and cook slowly for about two hours. Then add the potato, onion, pepper, corn, and seasonings. Cook until the vegetables are tender. Mix the flour with a little cold water, add to the other ingredients, and cook slowly for 5 or 10 minutes. Add the milk or cream; serve hot.

## SCALLOPED TOMATOES WITH CORN.

- |                                |                                  |
|--------------------------------|----------------------------------|
| 2 cups canned tomatoes.        | 2 tablespoons sugar.             |
| 1 teaspoon salt.               | 1 cup bread crumbs.              |
| $\frac{1}{4}$ teaspoon pepper. | 2 cups salted or fermented corn. |

Cover the bottom of the greased baking dish or casserole with a layer of bread crumbs; add a layer of the corn and one of tomatoes. Continue this until all materials have been used up, saving a layer of bread crumbs for the top. Dot with butter and brown in a hot oven.

## CORN PUDDING.

- |                          |   |
|--------------------------|---|
| 2 eggs.                  | 2 tablespoons melted butter or other fat. |
| 1 pint milk.             | $\frac{1}{2}$ teaspoon salt.              |
| 1 tablespoon sugar.      |   |
| 2 cups cold cooked corn. |   |

Beat the eggs until light and add the sugar, corn, milk, melted butter, and salt. Pour into a buttered baking dish and bake in a slow oven until firm. Skim milk may be used in this dish.

## CORN OMELET.

- |                              |                         |
|------------------------------|-------------------------|
| 4 eggs.                      | 1 tablespoon butter.    |
| $\frac{1}{2}$ teaspoon salt. | 1 cup cold cooked corn. |
| 4 tablespoons hot water.     |                         |

Separate yolks and whites of eggs. To the yolks add the salt, pepper, and hot water, beat until thick, and then add the corn. Fold the stiffly beaten whites into the first mixture. Cook the omelet slowly in a buttered pan until a delicate brown.

## CORN FRITTERS.

- |                                   |                                 |
|-----------------------------------|---------------------------------|
| 2 $\frac{1}{2}$ cups cooked corn. | 2 teaspoons salt.               |
| 1 cup flour.                      | $\frac{1}{4}$ teaspoon paprika. |
| 1 teaspoon baking powder.         | 2 eggs.                         |

Chop the corn. Mix and sift dry ingredients and add chopped corn and the well-beaten egg yolks, and then fold in the stiffly beaten whites. Bake on well-greased griddle or in frying pan until a golden brown. Drain on brown paper. Serve hot with butter or sirup.

## CORN WAFFLES.

- |                                |                              |
|--------------------------------|------------------------------|
| 1 $\frac{1}{4}$ cups flour.    | 4 teaspoons baking powder.   |
| $\frac{3}{4}$ cup cooked corn. | $\frac{1}{4}$ teaspoon salt. |
| 1 $\frac{1}{2}$ cups milk.     | 1 tablespoon butter.         |
| 2 tablespoons sugar.           | 1 egg.                       |

Mix and sift dry ingredients. Add the corn and mix thoroughly. Add the milk, yolk of egg well beaten, butter, and stiffly beaten egg white. Bake in greased hot waffle iron until golden brown.

## PEAS.

Salted or fermented peas should be soaked to remove most of the salt or acid flavor, and may then be served in the same way as fresh green peas. The following recipes have been found satisfactory for using the salted or fermented peas:

## PURÉE OF PEAS.

2 cups salted or fermented peas.	1 tablespoon butter or other fat.
$\frac{1}{2}$ cup whole or skim milk.	Paprika.
1 teaspoon salt.	

Boil the peas until tender, press them through a sieve to remove skins, and put into a saucepan. Add  $\frac{1}{2}$  cup warm milk (or skim milk), 1 teaspoon salt, and a little paprika. Mix well and cook for five minutes. Serve hot.

## PEA TIMBALES.

2 cups salted or fermented peas.	2 tablespoons melted butter or other fat.
2 eggs.	$\frac{1}{2}$ teaspoon salt.

Boil the peas until tender and rub through a sieve. Add the eggs well beaten, salt, a little pepper, and a few drops of onion juice. Turn into greased molds and cover them with greased paper. Set the molds in a pan of hot water and bake in the oven until firm. Serve with white sauce.





